

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): Interpretation system (~~IS~~) for interpreting reflectometry information, ~~characterised~~ characterized in that said interpretation system (~~IS~~) comprises at least a first module (~~M1~~) for making a first interpretation and a second module (~~M2~~) for making a second interpretation, with each module (~~M1,M2~~) comprising a generating module-part(~~G1,G2~~), a testing module-part (~~T1,T2~~) and a debugging module-part (~~D1,D2~~), and with said first module (~~M1~~) being a generating system-part for said second module (~~M2~~) and with said second module (~~M2~~) being a testing system-part and a debugging system-part for said first module (~~M1~~).

2. (currently amended): Interpretation system (~~IS~~) according to claim 1, ~~characterised~~ characterized in that said interpretation system (~~IS~~) comprises at least a third module (~~M3~~) for making a third interpretation, with said third module (~~M3~~) comprising a generating module-part (~~G3~~), a testing module-part (~~T3~~) and a debugging module-part (~~D3~~), and with said second module (~~M2~~) being a generating system-part for said third module (~~M3~~) and with said third module (~~M3~~) being a testing system-part and a debugging system-part for said second module (~~M2~~).

3. (currently amended): An interpretation ~~Interpretation~~-system (IS) for interpreting reflectometry information, comprising:

a first module for making a first interpretation, wherein said first interpretation is a pulse-based interpretation;

a second module for making a second interpretation wherein said second interpretation is an energy-based interpretation,

wherein each module comprises,

a generating module-part,

a testing module-part, and

a debugging module-part, and wherein

said first module is a generating system-part for said second module, and

said second module is a testing system-part and a debugging system-part for said

first module; and

at least a third module for making a third interpretation, wherein said third interpretation is a simulation-based interpretation,

wherein said third module comprises,

a generating module-part,

a testing module-part , and

a debugging module-part , and wherein

said second module is a generating system-part for said third module , and

said third module is a testing system-part and a debugging system-part for said second module.

~~according to claim 2, characterised in that said first interpretation is a pulse-based interpretation, with said second interpretation being an energy-based interpretation, and with said third interpretation being a simulation-based interpretation.~~

4. (currently amended): Interpretation system (IS) according to claim 3, ~~characterised~~ characterized in that said interpretation system (IS) comprises at least one processor, with said modules (M1-3), module-parts (G1-3, T1-3, D1-3) and system-parts being software to be run via said at least one processor.

5. (currently amended): Interpretation system (IS) according to claim 3, ~~characterised~~ characterized in that said generating module-part (G1) of said first module (M1) receives measurement-feature information and ~~[[/øf]]~~ topology information from a feature extraction and belief network module (M4), with said testing module-part (T1) of said first module (M1) sending peak-explanation information and line-delay information to said generating module-part (G2) of said second module (M2), and with said debugging module-part (D1) of said first module (M1) sending wrong-topology information and ~~[[/øf]]~~ noise information to said feature extraction and belief network module (M4).

6. (currently amended): Interpretation system (~~IS~~) according to claim 5, ~~characterised~~ characterized in that said testing module-part (~~T2~~) of said second module (~~M2~~) sends line-parameter information to said generating module-part (~~G3~~) of said third module (~~M3~~), with said debugging module-part (~~D2~~) of said second module (~~M2~~) sending impossible-peak-explanation information to said generating module-part (~~G1~~) of said first module (~~M1~~).

7. (currently amended): Interpretation system (~~IS~~) according to claim 6, ~~characterised~~ characterized in that said testing module-part (~~T3~~) of said third module (~~M3~~) sends line-delay information and/or line-definition information to a signal identification module (~~M5~~), with said generating module-part (~~G3~~) of said third module (~~M3~~) receiving wrong-solution information from said signal identification module (~~M5~~), and with said debugging module-part (~~D3~~) of said third module (~~M3~~) sending wrong-parameter-range information to said generating module-part (~~G2~~) of said second module (~~M2~~).

8. (currently amended): Telecommunication system comprising an interpretation system (~~IS~~) for interpreting reflectometry information, ~~characterised~~ characterized in that said interpretation system (~~IS~~) comprises at least a first module (~~M1~~) for making a first interpretation and a second module (~~M2~~) for making a second interpretation, with each module (~~M1~~,~~M2~~) comprising a generating module-part (~~G1~~,~~G2~~), a testing module-part (~~T1~~,~~T2~~) and a debugging module-part (~~D1~~,~~D2~~), and with said first module (~~M1~~) being a generating system-part for said

second module (~~M2~~) and with said second module (~~M2~~) being a testing system-part and a debugging system-part for said first module (~~M1~~).

9. (currently amended): Method for interpreting reflectometry information, ~~characterised~~ characterized in that said method comprises at least a first step of making a first interpretation and a second step of making a second interpretation, with each step comprising a generating substep, a testing substep and a debugging substep, and with said first step being a generating step for said second step and with said second step being a testing step and a debugging step for said first step.

10. (currently amended): Processor program product for interpreting reflectometry information, ~~characterised~~ characterized in that said processor program product comprises at least a first function of making a first interpretation and a second function of making a second interpretation, with each function comprising a generating subfunction, a testing subfunction and a debugging subfunction, and with said first function being a generating function for said second function and with said second function being a testing function and a debugging function for said first function.

11. (new): Interpretation system according to claim 2, characterized in that said first interpretation is a pulse-based interpretation, with said second interpretation being an energy-based interpretation, and with said third interpretation being a simulation-based interpretation.

12. (new): Interpretation system according to claim 11, characterized in that said interpretation system comprises at least one processor, with said modules, module-parts and system-parts being software to be run via said at least one processor.

13. (new): Interpretation system according to claim 11, characterized in that said generating module-part of said first module receives measurement-feature information and topology information from a feature extraction and belief network module, with said testing module-part of said first module sending peak-explanation information and line-delay information to said generating module-part of said second module, and with said debugging module-part of said first module sending wrong-topology information and noise information to said feature extraction and belief network module.

14. (new): Interpretation system according to claim 11, characterized in that said testing module-part of said second module sends line-parameter information to said generating module-part of said third module, with said debugging module-part of said second module sending impossible-peak-explanation information to said generating module-part of said first module.

15. (new): Interpretation system according to claim 11, characterized in that said testing module-part of said third module sends line-delay information and/or line-definition information to a signal identification module, with said generating module-part of said third module receiving wrong-solution information from said signal identification module, and with said debugging

module-part of said third module sending wrong-parameter-range information to said generating module-part of said second module.

16. (new): The telecommunication system according to claim 8, further comprising:  
at least a third module for making a third interpretation, said third module comprising:  
a generating module-part, a testing module-part, and  
a debugging module-part,

wherein said second module is a generating system-part for said third module and said third module is a testing system-part and a debugging system-part for said second module.

17. (new): The telecommunication system according to claim 16, wherein:  
said first interpretation is a pulse-based interpretation;  
said second interpretation is an energy-based interpretation; and  
said third interpretation is a simulation-based interpretation.

18. (new): The telecommunication system according to claim 17, further comprising at least one processor, with said modules, module-parts and system-parts being software to be run via said at least one processor.

19. (new): The telecommunication system according to claim 17, wherein:

said generating module-part of said first module receives measurement-feature information and topology information from a feature extraction and belief network module;

said testing module-part of said first module sends peak-explanation information and line-delay information to said generating module-part of said second module; and

said debugging module-part of said first module sends wrong-topology information and noise information to said feature extraction and belief network module.

20. (new): The telecommunication system according to claim 19, wherein:

said testing module-part of said second module sends line-parameter information to said generating module-part of said third module; and

said debugging module-part of said second module sends impossible-peak-explanation information to said generating module-part of said first module.

21. (new): An interpretation system, comprising:

first interpretation means for making a first interpretation, said first interpretation means comprising:

first generating means for supplying solution signals,

first testing means for supplying solution and error report signals, and

first debugging means for supplying output information, new solution signals, and correction signals; and



second interpretation means for making a second interpretation, said second interpretation means comprising,

- second generating means for supplying solution signals,
- second testing means for supplying solution and error report signals, and
- second debugging means for supplying output information, new solution signals, and correction signals;

wherein said first interpretation means is generating means for said second interpretation means, and

said second interpretation means is testing means and debugging means for said first interpretation means.

22. (new): An interpretation system according to claim 21, further comprising:

third interpretation means for making a third interpretation, said third interpretation means comprising:

- generating means for supplying solution signals,
- testing means for supplying solution and error report signals, and
- debugging means for supplying output information, new solution signals, and correction signals;

wherein said second interpretation means is generating means for said third interpretation means, and

said third interpretation means is a testing means and a debugging means for said second interpretation means.

23. (new): A computer-readable storage medium containing a set of instructions for a general purpose computer, the set of instructions comprising:

- making a first interpretation in a first interpretation module;
- supplying output information from the first interpretation module to a second interpretation module;
- making a second interpretation in the second interpretation module;
- supplying testing and debugging information from the second interpretation module to the first interpretation module; and
- outputting information for an output unit.